A Test of the Functional Requisites in Small Group Decision-Making

Linguistics

Keywords: Small-Group, Decision-Making, Functional Requisites.

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Abstract

This pilot study tests the functional perspective of small group decision-making, which asserts that certain or all five critical requisite functions must be satisfied for an effective group decision-making. The investigation involved four groups of first year students who voluntarily decided to participate. Each group was given a survival simulation that involved strictly enforced decisions. Each group was assigned different functional requisites to consider during their decision-making. One group was given the five functional requisites: (1) develop a thorough and accurate understanding of the problem, (2) achieve an appropriate understanding of the requirements for an acceptable choice, (3) marshal and, if necessary, develop a range of realistic and acceptable alternatives, (4) assess thoroughly and accurately the positive consequences associated with alternative choices, and (5) assess thoroughly and accurately the negative consequences associated with the alternative choices. The second group was assigned three functional requisites such as (1) develop a thorough and accurate understanding of the problem, (2) achieve an appropriate understanding of the requirements for an acceptable choice, and (3) assess thoroughly and accurately the negative consequences associated with the alternative choices. The third group was assigned two of the functional requisites such as (1) develop a thorough and accurate understanding of the problem and (2) assess thoroughly and accurately the negative consequences associated with the alternative choices. The fourth group was assigned only the assessment of negative consequences associated with the alternative choices. The groups that came closer to the decisions suggested by the experts were the first and the fourth group.

Group decision performance has long been studied by Hirokawa and other scholars interested in quality decision making in small groups. According to some scholars (e.g., Cragan & Wright, 1990; Griffin, 2000; Pavitt, 1994), one of the most influential theories accounting for the relation between communication and group decision-making effectiveness is the ***functional theory of group decision making*** (Gouran & Hirokawa, 1983, 1986, 1996; Gouran, Hirokawa, Julian, & Leatham, 1993; Hirokawa, 1980a, 1980b, 1982, 1983, 1985, 1988; Hirokawa and Rost, 1992; Hirokawa & Scheerhorn, 1986). The core notion of the functional theory is that effective group decision-making is contingent on interactions contributing to the satisfaction of critical task requirements (cited in Poole & Hollingshead, 2005).

Over the years, the functional theory of group decision-making effectiveness has undergone change with slight variations in the proposed critical functions necessary to reach an effective decision (Orlitzki & Hirokawa, 2001). Generally, empirical tests of the functional theory have focused on the relationship between group decision-making effectiveness and a group's ability to satisfy five requisite functions during its decision-making interaction (Hirokawa, 1985, 1988, 1990, cited in Orlitzki & Hirokawa, 2001). The functional requisites that Orlitzky & Hirokawa (2001) suggest include the following: (1) Developing a thorough and accurate understanding of the problem i.e. the group needs to arrive to an accurate or reasonable understanding of the problem, understand the seriousness of the problem, the likely cause of the problem, and anticipate the possible consequences for not dealing effectively with the problem, (2) achieving an appropriate understanding of the requirements for an acceptable choice i.e. the group must recognize the specific standards that the choice must satisfy to be judged acceptable by evaluators of that decision, (3) marshaling and if

necessary, developing a range of realistic and acceptable alternatives. According to Orlitzky & Hirokawa (2001) the group must generate, or be aware of, a number of appropriate and feasible alternatives among which an acceptable choice is assumed to exist. (4) Assessing thoroughly and accurately the positive consequences associated with alternative choices. Given the information available, the group needs to be fully cognizant of the relative merits of all available choices. (5) Assessing thoroughly and accurately the negative consequences associated with the alternative choices. Given the information available, the group needs to be fully cognizant of the relative disadvantages associated with each alternative.

Tests on the functional perspective have been conducted dating back from 1983. Hirokawa (1983) compared the interaction of effective and ineffective problem-solving groups in an effort to discover whether systematic relationships exist between problem-solving effectiveness and the frequency of communicative behaviors that perform certain procedural factors. He examined five functions: (1) establishment of operating procedures, (2) analyses of the problem, (3) generations of alternative solutions, (4) establishment of evaluation criteria, and (5) evaluation of alternative solutions. The researcher found that of the five functions examined, group problem-solving effectiveness was found to be significantly related only to those utterances which "established operating procedures", and "analyze the problem". According to Hirokawa, the study found a negative relationship between group problem-solving effectiveness and attempts to establish operating procedures within the group discussion, and a positive relationship between problem-solving effectiveness and attempts to analyze the group problem. Hirokawa (1983) reports that multiple discriminant analysis revealed that the relationships were sufficiently consistent to allow the two task-achievement functions to serve as accurate discriminators of group problem-solving effectiveness.

Moreover, in another study in 1983, Hirokawa and Pace compared the deliberations of groups that had either arrived at low or high-quality decisions. The researchers found that group decision-making performance could be distinguished on the basis of the group's performance of three predecisional activities such as: (1) evaluation of opinions and assumptions advanced by group members, (2) evaluation of alternative choices, and (3) establishment of shared information base. The study discovered that groups that arrived at high-quality decisions appeared to do a better job of performing those three functions than groups that arrived at low-quality decisions.

In 1985 Hirokawa attempted to determine whether the group's satisfaction of requisite conditions is a better predictor of decision-making performance than the discussion procedures it employs at arriving at a decision. He compared four discussion procedures such as reflective-thinking, ideal solution, single-question, and free discussion, with four requisite conditions such as accurate understanding of the problem, identification of realistic alternatives, accurate assessment of the positive qualities of alternative choices, and accurate assessment of the negative qualities of alternative choices. The study found that regardless of procedural format employed, groups that satisfied at least two or more of the requisite conditions tended to produce significantly higher-quality decisions than those that failed to do so. The researcher discovered significant positive relationships between group decision-making performance and the group's ability to "accurately understand the problem" and "accurately assess negative qualities of alternative choices" (Hirokawa, 1985).

In 1988, Hirokawa, in his "Continued Test of the Functional Perspective" found that the quality of a group's decision is directly related to its ability to satisfy important decisional functions. He asserts that the data that he accumulated in his three studies indicate that groups that effectively asses (1) the problematic situation, (2) the requirements for an acceptable choice, (3) the positive qualities of acceptable choice, and (4) the negative qualities of alternative choices, were more likely to arrive at high-quality decisions than groups that did not. Furthermore, Hirokawa asserts that according to the initial study, failure to perform a critical function will have a profound effect on the ultimate quality of decision made by the group regardless of whether that failure occurs in the early or later stages of the process. In particular, the study found that positive relationships existed between group decision-making performance and group's ability to (1) accurately understand the problem, and (2) accurately assess negative qualities of alternative choices (Hirokawa, 1988).

Continuing the test of quality group decision making, Hirokawa, Ice, & Cook (1988) examined different kinds of groups such as high procedural order (HPO) members using a high structure procedure, HPO members using low structure procedures, and low procedural order (LPO) members using low structure procedure. Their primary interest was to examine the mediating influence of a group member's preference for procedural order on the relationship between decision making procedures and decision performance. The results of the study confirmed that the relationship between group discussion formats and decision-making performance is, at least in part, mediated by the procedural order preference of group members (Hirokawa, Ice, & Cook 1988).

The scholarly research and the test of the functional requisites of small group decision making performance continue in 1992 when Hirokawa & Rost examined group decision performance in relationship to four aspects of vigilant interaction. The aspects of vigilant interaction included: (1) assessment of the task – Does the group display a reasonable understanding of what they are supposed to accomplish? (2) assessment of evaluative criteria – Does the group identify and use appropriate standards in evaluating alternative choices? (3)assessment of positive qualities – Does the group display a reasonable understanding of important positive aspects of alternative choices? and (4) assessment of negative qualities – Does the group display a reasonable understanding of important negative aspects of alternative choices? The researchers hypothesized that groups arriving at high-quality decisions will display all four aspects of vigilant interaction more effectively. Their overall results provided support for the claims that group decision performance is directly related to a group's efforts to perform critical vigilant decision making (Hirokawa & Rost 1992).

The most recent test results of the functional perspective result from 2001 when Orlitzky & Hirokawa extend Hirokawa and other's prior research to answer the question on why some groups arrive at better decisions than others. In their test of the functional theory of group decision making effectiveness they assert that evaluation of negative consequences of alternative solutions, problem analyses, and establishment of solution criteria are the strongest predictors of group decision-making effectiveness. However, when task evaluations are high, researchers argue that according to their findings, evaluation of negative consequences is an even better predictor of group performance (Orlitzky & Hirokawa, 2001).

In 2004 researchers such as Wittenbaum, Hollingshead, Paulus, Hirokawa, Ancona, Peterson, Jehn, and Yoon, attempted to discover the strengths as well as the weaknesses of the functional

perspective. While identifying the strengths they argue that the theory has influenced the development of other theories to predict and explain group behavior (Wittenbaum et al., 2004). According to Wittenbaum et al. (2004), there are seven theoretical insights that are in the functional perspective tradition. Those further include the social combination perspective, the functional theory of group decision making, groupthink, an external view of groups, collective information sharing, conflict management, and brainstorming. The researchers believe that the functional perspective provides a useful framework for understanding a variety of group performance issues. Moreover, they believe that the lessons provided by the functional perspective allow and help researchers "design environments and interventions that yield successful teams" (pp. 37). However, they believe that there is a lot of space for future research and improvement as well as believe that no one perspective can do a sufficient job in explaining the full spectrum of group experiences.

All previous research suggests that groups who satisfy all five requisite functions during their decision making are highly likely to arrive at high-quality decision making. Yet, some previous and recent research suggest that two of the five requisite functions such as "accurately understanding the problem" and "assessment of negative consequences of various alternative solutions" are associated with positive influence on the quality of decision-making if applied separately from the other three requisites. Other studies (see Hirokawa, 1983 & Orlitzky & Hirokawa, 2001) suggest that groups that satisfy at least three of the functional requisites such as (1) develop a thorough and accurate understanding of the problem, (2) achieve an appropriate understanding of the requirements for an acceptable choice, and (3) assessment of negative consequences of various alternative solutions are likely to come to a high quality decision. Finally, the latest study by Orlitzky and Hirokawa (see Orlitzky and Hirokawa, 2001) among all, suggest that groups that consider the assessment of negative aspects of alternative choices are likely to come to a high quality decision. This reasoning is consistent with the claims by group and organizational scholars that the quality of group-decision is attributed to the quality of group interaction or communication in a group. Contributing scholars believe that the promising theoretical framework that accounts for the relationship between communication and group decision-making effectiveness is the functional theory (Orlitzky and Hirokawa, 2001). Given this reasoning, I conducted a test of the functional requisites as proposed by Hirokawa and other scholars over the years. Namely, I was particularly interested in the following tests:

H1: Groups that use the five requisite functions during decision making are likely to come to a more favorable/effective decision.

H2: Groups that at least consider two of the five requisite functions of the functional perspective such as "accurate understanding of the problem" and "assessment of negative consequences of various alternative solutions" are likely to come to a more favorable/effective decision.

H3: Groups that consider three of the five requisite functions of the functional perspective such as develop a thorough and accurate understanding of the problem, achieve an appropriate understanding of the requirements for an acceptable choice, and assessment of negative consequences of various alternative solutions are likely to come to a more favorable/effective decision.

H4: Groups that only consider the assessment of negative aspects of alternative choices are likely to come to a more favorable/effective decision.

Method

I conducted a pilot study at a relatively large Midwestern university in the United States. The participants in the study consisted of 20 undergraduate student volunteers who were recruited from an introductory communication course that I was teaching. Their participation was solely based on volunteering and students were not granted extra credits for their participation. The participants were informed that they were going to participate in a group decision-making process. All of the participants were aware of basic group dynamics and of the functional requisites for effective group decision-making since their introductory communication course involved basic group communication. They were also part of a group that they were assigned at the beginning of the semester for a group task in accordance with the class requirements. As such, they were all informed of the procedures that they needed to apply for their project. Participants were told that they will need to participate in a simulation of a survival game. Four groups of students were formed each consisting of 5 students. All of the groups were given the same task which was to simulate survival in a crashed plane in a very cold place with temperatures ranging from 25 degrees Fahrenheit below zero during the day and up to 49 degrees Fahrenheit below zero during the night. They were also told that the number of passengers is to be assumed the same with the number of participants in their group. Their ultimate group task was to come to an agreement as a group and to list their five choices that they think will help them survive. The choices that the group had to choose from were foreseen by experts as five particular choices which were strictly enforced. Among twelve choices including a ball of steel wool, a small ax, a loaded 45-caliber pistol, a can of Crisco shortening, newspapers (one per person), cigarette lighter (without fluid), extra shirt and pants for each survivor, 20 x 20 ft. piece of heavy-duty canvas, a sectional air map made of plastic, one quart of 100-proof whiskey, a compass, and family-size chocolate bars (one per person). The groups were required to choose five items which were believed by experts to help them survive. Experts' suggestions were the following: (1) Cigarette lighter (without fluid), (2) Ball of steel wool, (3) Extra shirt and pants for each survivor, (4) Can of Crisco shortening and (5) 20 x 20 foot piece of canvas.

The first group was given the survival list and was asked to discuss their choices while considering the five functional requisites suggested by Hirokawa (2001) which included (1) develop a thorough and accurate understanding of the problem, (2) achieve an appropriate understanding of the requirements for an acceptable choice (3) marshal and if necessary, develop a range of realistic and acceptable alternatives (4) assess thoroughly and accurately the positive consequences associated with alternative choices and (5) assess thoroughly and accurately the negative consequences associated with the alternative choices.

The second group was given the survival list and was asked to discuss their choices while considering the three functional requisites tested by Hirokawa & Pace (1983) & Orlitzky & Hirokawa (2001) which include (1) develop a thorough and accurate understanding of the problem, (2) achieve an appropriate understanding of the requirements for an acceptable choice, and (3) assess thoroughly and accurately the negative consequences associated with the alternative choices.

The third group of students was given the survival list and was asked to discuss their choices while considering only two requisites of the functional perspective as suggested by Hirokawa (1985) such as (1) develop a thorough and accurate understanding of the problem and (2) assess thoroughly and accurately the negative consequences associated with the alternative choices.

The fourth group was given only one of the functional perspectives which Orlitzky & Hirokawa suggested in his study in 2001. That requisite is the thorough and accurate assessment of the negative consequences associated with the alternative choices.

Results

The first group that was assigned to carry their discussion while considering the five requisites of the functional perspective decided that the best way to survive is to choose (1) ball of steel wool, (2) cigarette lighter (without fluid), (3) 20 x 20 foot piece of canvas, (4) Extra shirt and pants for each survivor and (5) a small ax.

The second group that was given the three requisites of the functional perspective such as (1) develop a thorough and accurate understanding of the problem, (2) achieve an appropriate understanding of the requirements for an acceptable choice, and (3) assess thoroughly and accurately the negative consequences associated with the alternative choices, decided that the best way to survive is to choose items such as (1) extra shirt and pants for each survivor, (2) a sectional air map made of plastic, (3) a loaded .45-caliber pistol, (4) family size chocolate bars, and (5) newspapers.

The third group that was given the two requisites of the functional perspective such as (1) Develop a thorough and accurate understanding of the problem and (2) assess thoroughly and accurately the negative consequences associated with the alternative choices decided that the best way to survive is to choose (1) extra shirt and pants for each survivor, (2) 20 x 20 foot piece of canvas, (3) loaded. 45-caliber pistol, (4) a compass, and (5) a small ax.

The fourth group that was assigned only one of the functional requisites which was the assessment of negative consequences associated with the alternative choices decided that the best way to survive was to choose (1) ball of steel wool, (2) extra shirt and pants for each survivor, (3) cigarette lighter (without fluid), (4) 20 x 20 foot piece of canvas, and (5) family size chocolate bars.

Discussion

The results show that there is no group that "survived" after the accident, at least as suggested by the experts who proposed a survival option. However, it is important to mention that all groups generated enough discussion. The groups that generated the longest discussions were the first and the second group which were assigned to make their decisions while considering five and three requisites of the functional perspective such as: (1) develop a thorough and accurate understanding of the problem, (2) achieve an appropriate understanding of the requirements for an acceptable choice (3) marshal and if necessary, develop a range of realistic and acceptable alternatives (4) assess thoroughly and accurately the positive consequences associated with alternative choices and (5) assess thoroughly and accurately the negative consequences associated with the alternative choices, and group three which used the following requisites of the functional perspective: (1) develop a thorough and accurate understanding of the problem, (2) achieve an appropriate

understanding of the requirements for an acceptable choice, and (3) assess thoroughly and accurately the negative consequences associated with the alternative choices.

The third and the fourth group which worked on the issue while considering the (1) understanding of the problem and (2) assessment of negative consequences associated with alternative choices and (1) only assessment of negative consequences associated with alternative choices, generated fewer discussion as far as length of the discussion is concerned. Apparently, the first group that was given the five requisites and the fourth group that was given only one requisite such as assessment of negative consequences associated with the alternative choices arrived at much better decisions than the other groups. From the results provided we can conclude that both groups came close or closer to the suggested choices. Both groups missed the can of Crisco shortening which is number 4 in the experts suggestion. The first group chose the small ax which is number 6 in the order suggested by the expert. The fourth group chose the chocolate bars which were ordered as number 7 choice by the expert. Thus, while looking closer, we see that the first group that was given the five functional requisites came to a much closer and better decision than the other groups, which is in favor of my first hypothesis that groups that use the five requisite functions during decision making are likely to come to a more favorable/effective decision. Moreover, during groups' decision- making procedures and while observing them, I was able to see that the first group that was given the five requisites of the functional perspective generated more discussion and their decision-making procedure took way longer than the other groups. Also, after the project was over I elicited some feedback from the participants to understand how different this group task was from the other group tasks that they had had before. They answered that the requisites were extremely helpful and that they will try and apply them in their future group-decision making tasks. The group that was mostly enthusiastic was the group that only had one of the requisites (assessment of negative consequences associated with alternative choices) who reported that assessment of negative consequences brings a lot of critical approaches and elicits more discussion and participation from all group members.

My results indicate a very close correlation with Orlitzky & Hirokawa's (2001) research. They argue that generally empirical tests have yielded general support of the functional theory of group decision-making effectiveness. Moreover, Orlitzky & Hirokawa (2001) suggest that the strongest predictor for group decision quality is evaluation of negative consequences.

Finally, my first and fourth hypotheses are supported by results which are in correlation with previous research results conducted by Hirokawa and others.

Limitations

The limitations of this pilot study are usual. This study included first year undergraduate students who are not usually enthusiastic in doing extra work without being offered extra credit. The study was conducted after class when students usually worry about traveling to their hometowns and worry about arriving on time in their workplaces. Thus, time was an issue that might have had negative impact on the results and the study itself. Moreover, the nature of the task was rather burdensome. The study was initially created by Mark Wanvig, a former instructor in survival training for the Reconnaissance School of the 101st Division of the U.S. Army and is intended for use in military training classrooms. Due to this, participants should have some background or at least desire for

dealing with military survival issues. This claim is also supported by other scholar's (see Poole & Hollingshead, 2005, pp.27) who claim that the functional theory predicts that the effects of communication functions on group decision quality are moderated by task features for example how equivocal or complex the task is. They also think that the influence of input variables, such as group composition, on communication functions and group performance also depends on the nature of the group's task. Thus, limitations such as the nature of the task, time available to study the groups, time available to complete the task for group members themselves, sample demographics, test instruments, strictly enforced results by the survival expert, gives us no space whatsoever to conclude with definite generalizations. This study should be further investigated in various contexts.

Implications

The results from this pilot study indicate the importance of the functional theory requisites for quality decision-making. Two of my hypotheses indicate a close correlation with previous research conducted by scholars interested in small group quality decision-making. Yet, two of my other hypotheses indicate no correlation with previous research even though my hypotheses were inspired by positive findings of other scholars who have conducted this kind of research before.

Conclusion

This pilot study was conducted to test the importance of the functional requisites for quality decision-making. Four hypotheses were inspired by the majority of literature published over the years of research from scholars interested in small group quality-decision making. My particular and unique interest in this study was to test which of the functional perspectives combined or on its own would generate the best decision. The first hypothesis claims that groups that use the five requisite functions during decision making are likely to come to a more favorable/effective decision. The second hypothesis claims that groups that at least consider two of the five requisite functions of the functional perspective such as "accurate understanding of the problem" and "assessment of negative consequences of various alternative solutions" are likely to come to a more favorable/effective decision. The third hypothesis claims that groups that consider three of the five requisite functions of the functional perspective such as "develop a thorough and accurate understanding of the problem", "achieve an appropriate understanding of the requirements for an acceptable choice", and "assessment of negative consequences of various alternative solutions" are likely to come to a more favorable/effective decision. The last hypothesis was that groups that at only consider the "assessment of negative aspects of alternative choices" are likely to come to a more favorable/effective decision. The findings support hypotheses one and four but the rest find no correlation between the assumptions and the findings. This particular research is important since it is aimed to generate modes for achieving quality decision-making in small groups.

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